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ABSTRACT

The present invention enables hemodynamic efficiencies for patients suffering from intraventricular conduction delays or conduction blockage. The invention effectively overcomes such conduction delay or block (e.g., left bundle branch block, "LBBB," or right bundle branch block, "RBBB") by delivering a novel form of cardiac resynchronization therapy (CRT). Specifically, a single ventricular pre-excitation pacing stimulus is triggered from an atrial event (e.g., intrinsic or evoked depolarization). The triggering event may emanate from the right atrium (RA) or the left atrium (LA). A single ventricular pre-excitation pacing stimulus is delivered prior to the intrinsic depolarization of the other ventricle and thus promotes intraventricular electromechanical synchrony during CRT delivery.